

A. AMENDMENTS TO CLAIMS

Please cancel Claims 5-7, 14-16, 23-25 and 32-34, add new Claims 37-56 and amend the claims as indicated hereinafter.

1. (CURRENTLY AMENDED) A communications receiver comprising:
a time domain equalizer;
a frequency domain equalizer; and
an update mechanism configured ~~to~~ to:
 update both the time domain equalizer and the frequency domain equalizer based
 upon performance data that indicates performance of a communications
 channel from which the communications receiver receives data, wherein
 updating the time domain equalizer includes determining a relative
 performance of the time domain equalizer ~~operating with first and second~~
 ~~sets of equalizer coefficients, when operating with first and second sets of~~
 equalizer coefficients by determining signal to noise ratios of data
 received by the communications receiver when the time domain equalizer
 is operating with the first and second sets of equalizer coefficients; and
 update bit allocation among tones based upon the determined signal to noise
 ratios.
2. (ORIGINAL) The communications receiver as recited in Claim 1, wherein the update
mechanism is further configured to update the time domain equalizer by updating
coefficients used by the time domain equalizer.
3. (ORIGINAL) The communications receiver as recited in Claim 1, wherein the update
mechanism is further configured to generate the performance data based upon
synchronization symbols received by the communications receiver.
- 4-7. (CANCELED)
8. (ORIGINAL) The communications receiver as recited in Claim 1, wherein the
communications receiver is a digital subscriber line communications receiver.

9. (ORIGINAL) The communications receiver as recited in Claim 1, wherein the communications receiver is part of a discrete multitone communications system.
10. (CURRENTLY AMENDED) An update mechanism configured ~~to~~ to:
update both a time domain equalizer and a frequency domain equalizer in a communications receiver based upon performance data that indicates performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes determining a relative performance of the time domain equalizer ~~operating with first and second sets of equalizer coefficients~~ when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and
update bit allocation among tones based upon the determined signal to noise ratios.
11. (ORIGINAL) The update mechanism as recited in Claim 10, wherein the update mechanism is further configured to update the time domain equalizer by updating coefficients used by the time domain equalizer.
12. (ORIGINAL) The update mechanism as recited in Claim 10, wherein the update mechanism is further configured to generate the performance data based upon synchronization symbols received by the communications receiver.
- 13-16. (CANCELED)
17. (ORIGINAL) The update mechanism as recited in Claim 10, wherein the communications receiver is a digital subscriber line communications receiver.
18. (ORIGINAL) The update mechanism as recited in Claim 10, wherein the communications receiver is part of a discrete multitone communications system.
19. (CURRENTLY AMENDED) A method for configuring a communications receiver comprising: ~~comprising the step of~~

updating both a time domain equalizer and a frequency domain equalizer contained in the communications receiver based upon performance data that indicates performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes determining a relative performance of the time domain equalizer ~~operating with first and second sets of equalizer coefficients~~, when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and updating bit allocation among tones based upon the determined signal to noise ratios.

20. (ORIGINAL) The method as recited in Claim 19, wherein updating the time domain equalizer includes updating coefficients used by the time domain equalizer.
21. (ORIGINAL) The method as recited in Claim 19, further comprising generating the performance data based upon synchronization symbols received by the communications receiver.
- 22-25. (CANCELED)
26. (ORIGINAL) The method as recited in Claim 19, wherein the communications receiver is a digital subscriber line communications receiver.
27. (ORIGINAL) The method as recited in Claim 19, wherein the communications receiver is part of a discrete multitone communications system.
28. (CURRENTLY AMENDED) A computer-readable medium carrying one or more sequences of one or more instructions for configuring a communications receiver, the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, ~~cause the one or more processors to update~~ updating both a time domain equalizer and a frequency domain equalizer contained in the communications receiver based upon performance data that indicates performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes determining a relative

~~performance of the time domain equalizer operating with first and second sets of equalizer coefficients; when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and~~
updating bit allocation among tones based upon the determined signal to noise ratios.

29. (ORIGINAL) The computer-readable medium as recited in Claim 28, wherein updating the time domain equalizer includes updating coefficients used by the time domain equalizer.
30. (ORIGINAL) The computer-readable medium as recited in Claim 28, further comprising one or more additional sequences of one or more instructions which, when executed by the one or more processors, cause the one or more processors to generate the performance data based upon synchronization symbols received by the communications receiver.
- 31-34. (CANCELED)
35. (ORIGINAL) The computer-readable medium as recited in Claim 28, wherein the communications receiver is a digital subscriber line communications receiver.
36. (ORIGINAL) The computer-readable medium as recited in Claim 28, wherein the communications receiver is part of a discrete multitone communications system.
37. (NEW) A communications receiver comprising:
a time domain equalizer;
a frequency domain equalizer; and
an update mechanism configured to:
update both the time domain equalizer and the frequency domain equalizer based upon performance data that indicates performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes determining a relative performance of the time domain equalizer when operating with first and second sets of equalizer coefficients by determining signal to noise ratios

of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and

perform gain adjustments on tones based upon the determined signal to noise ratios.

38. (NEW) The communications receiver as recited in Claim 37, wherein the update mechanism is further configured to update the time domain equalizer by updating coefficients used by the time domain equalizer.
39. (NEW) The communications receiver as recited in Claim 37, wherein the update mechanism is further configured to generate the performance data based upon synchronization symbols received by the communications receiver.
40. (NEW) The communications receiver as recited in Claim 37, wherein the communications receiver is a digital subscriber line communications receiver.
41. (NEW) The communications receiver as recited in Claim 37, wherein the communications receiver is part of a discrete multitone communications system.
42. (NEW) An update mechanism configured to:
update both a time domain equalizer and a frequency domain equalizer in a communications receiver based upon performance data that indicates performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes determining a relative performance of the time domain equalizer when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and
perform gain adjustments on tones based upon the determined signal to noise ratios.
43. (NEW) The update mechanism as recited in Claim 42, wherein the update mechanism is further configured to update the time domain equalizer by updating coefficients used by the time domain equalizer.

44. (NEW) The update mechanism as recited in Claim 42, wherein the update mechanism is further configured to generate the performance data based upon synchronization symbols received by the communications receiver.
45. (NEW) The update mechanism as recited in Claim 42, wherein the communications receiver is a digital subscriber line communications receiver.
46. (NEW) The update mechanism as recited in Claim 42, wherein the communications receiver is part of a discrete multitone communications system.
47. (NEW) A method for configuring a communications receiver comprising:
updating both a time domain equalizer and a frequency domain equalizer contained in the communications receiver based upon performance data that indicates performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes determining a relative performance of the time domain equalizer when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and
performing gain adjustments on tones based upon the determined signal to noise ratios.
48. (NEW) The method as recited in Claim 47, wherein the update mechanism is further configured to update the time domain equalizer by updating coefficients used by the time domain equalizer.
49. (NEW) The method as recited in Claim 47, wherein the update mechanism is further configured to generate the performance data based upon synchronization symbols received by the communications receiver.
50. (NEW) The method as recited in Claim 47, wherein the communications receiver is a digital subscriber line communications receiver.
51. (NEW) The method as recited in Claim 47, wherein the communications receiver is part of a discrete multitone communications system.

52. (NEW) A computer-readable medium carrying one or more sequences of one or more instructions for configuring a communications receiver, the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause:
updating both a time domain equalizer and a frequency domain equalizer contained in the communications receiver based upon performance data that indicates performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes determining a relative performance of the time domain equalizer when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and
performing gain adjustments on tones based upon the determined signal to noise ratios.
53. (NEW) The computer-readable medium as recited in Claim 52, wherein the update mechanism is further configured to update the time domain equalizer by updating coefficients used by the time domain equalizer.
54. (NEW) The computer-readable medium as recited in Claim 52, wherein the update mechanism is further configured to generate the performance data based upon synchronization symbols received by the communications receiver.
55. (NEW) The computer-readable medium as recited in Claim 52, wherein the communications receiver is a digital subscriber line communications receiver.
56. (NEW) The computer-readable medium as recited in Claim 52, wherein the communications receiver is part of a discrete multitone communications system.